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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/705,727	11/10/2003	Warren M. Farnworth	2269-5558F US	4992

24247 7590 04/20/2007  
TRASK BRITT  
P.O. BOX 2550  
SALT LAKE CITY, UT 84110

EXAMINER
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KASENGE, CHARLES R

ART UNIT	PAPER NUMBER
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2125

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/20/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

## Office Action Summary

**Application No.**

10/705,727

**Applicant(s)**

FARNWORTH, WARREN M.

**Examiner**

Charles R. Kasenge

**Art Unit**

2125

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 22 January 2007.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-44 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-20 and 31-44 is/are allowed.
- 6) ☒ Claim(s) 21 and 23-30 is/are rejected.
- 7) ☒ Claim(s) 22 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 November 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments filed 1/22/07 have been fully considered but they are not persuasive. Regarding claim 21, the Office reasserts that Michael et al. U.S. Patent 5,960,125 discloses "a selectively moveable element (motion stage) to effect formation of an object on at least one of a support element and a substrate positioned on the support element (col. 7, lines 8-30; col. 8, lines 6-16)." The Examiner interprets Michael's "motion stage" as the moveable element/support element and "the object" as the object to be formed or fabricated (see also col. 1, lines 20-30).

Regarding claim 24, the Office reasserts that Michael discloses at least one fiducial mark associated with the support element for providing a reference point for the machine vision system (col. 6, lines 25-29 and col. 11, lines 10-15). The Examiner interprets the brief description located in col. 11, lines 10-15 as disclosing a mark on the support element (motion stage).

Regarding claim 25, the Office reasserts that Michael implicitly discloses a magnification element associated with the locationally stationary camera to magnify an image viewed thereby (col. 1, lines 53-63; col. 6, lines 13-32). The Examiner contends that a camera with a magnification element is inherent to cameras used for machine vision systems (col. 1, lines 53-63). The "magnification invariant" term implies that a magnification element does exist.

Regarding claims 26 and 27, the Office reasserts that Michael discloses a magnification element that optically magnifies an image (col. 1, lines 53-63) and digitally magnifies an image (col. 2, lines 13-17).

Regarding claim 28, the Office reasserts that Michael discloses a rotational element (motion stage) associated with the locationally stationary camera to facilitate orientation of the locationally stationary camera to a selected location of a field of exposure of the selective material consolidation system (col. 5, lines 31-63 and col. 8, lines 38-55). The Examiner asserts that the motion stage is associated with camera, since the rotation of the motion stage changes the image and location that the camera captures.

Regarding claim 30, the Office reasserts that Michael discloses a one control element configured to cause the selective material consolidation system to effect fabrication of one or more objects at a precise location on at least one of the support element and a substrate thereon based on a location of at least one feature viewed by the machine vision system (col. 1, lines 20-30; col. 5, lines 32-63).

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 21 and 23-30 are rejected under 35 U.S.C. 102(b) as being anticipated by Michael et al. U.S. Patent 5,960,125. Regarding claim 21, Michael discloses a programmable material consolidation apparatus, comprising: a support element (Figs. 2 and 4, #15 and 42); a selective material consolidation system including a selectively moveable element to effect formation of an object on at least one of the support element and a substrate positioned on the support element

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(col. 7, lines 8-30; col. 8, lines 6-16); a machine vision system oriented to view the support element and an object under fabrication thereon, the machine vision system including: a locationally stationary camera positioned to avoid interference with the selectively moveable element of the selective material consolidation system (col. 8, lines 6-16); and at least one control element in communication with the selective material consolidation system and the machine vision system (col. 5, lines 43-63; col. 9 and 10, lines 63-4).

Regarding claims 23-27, Michael discloses the programmable material consolidation apparatus of claim 21, wherein the locationally stationary camera comprises a charge-coupled device (col. 5, lines 55-58). Michael discloses the programmable material consolidation apparatus of claim 21, at least one fiducial mark associated with the support element for providing a reference point for the machine vision system (col. 6, lines 25-29 and col. 11, lines 10-15). Michael discloses the programmable material consolidation apparatus of claim 21, further comprising: a magnification element associated with the locationally stationary camera to magnify an image viewed thereby (col. 1, lines 53-63; col. 6, lines 13-32). Michael discloses the programmable material consolidation apparatus of claim 25, wherein the magnification element optically magnifies the image (col. 6, lines 13-32; col. 2, lines 13-17). Michael discloses the programmable material consolidation apparatus of claim 25, wherein the magnification element digitally magnifies the image (col. 6, lines 13-32; col. 2, lines 13-17).

Regarding claims 28-30, Michael discloses the programmable material consolidation apparatus of claim 21, wherein the machine vision system further includes a rotational element associated with the locationally stationary camera to facilitate orientation of the locationally stationary camera to a selected location of a field of exposure of the selective material

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consolidation system (col. 5, lines 31-63 and col. 8, lines 38-55). Michael discloses the programmable material consolidation apparatus of claim 21, wherein the at least one control element receives signals from the locationally stationary camera indicating locations of features on or over the support element. Michael discloses the programmable material consolidation apparatus of claim 29, wherein the at least one control element is configured to cause the selective material consolidation system to effect fabrication of one or more objects at a precise location on at least one of the support element and a substrate thereon based on a location of at least one feature viewed by the machine vision system (col. 1, lines 20-30; col. 5, lines 32-63).

#### ***Allowable Subject Matter***

4. Claims 1-20 and 31-44 are allowed.
5. Claim 22 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

#### ***Conclusion***

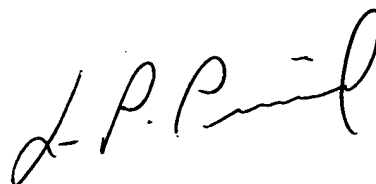
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles R. Kasenge whose telephone number is 571 272-3743. The examiner can normally be reached on Monday through Friday, 8:30 - 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo Picard can be reached on 571 272-3749. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CK  
April 6, 2007

A handwritten signature in black ink, appearing to read "L. P. Picard", is written in a cursive style.

**LEO PICARD  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2100**